Author Index

Abstracts of the Cancer Biotherapy Symposium, 193
Achiwa, K.: *See* Shimizu, T., 184
Adibzadeh, M., Weder, H.G., Rehbein, A., Schwulera, U., Obermeier, J., and Pawelec, G.: Activity of liposomal interleukin-2 in vitro, 24
Aldrich, W.: *See* Rinehart, J.J., 77
Allen, W.R.: *See* Rosenblum, M.G., 122
Ariad, S., Song, E., Cohen, R., and Bezwoda, W.R.: Interferon-alpha induced autoimmune hepatitis in a patient with Philadelphia chromosome-positive chronic myeloid leukemia with cytogenetically normal T lymphocytes, 139
Arnold, J.: *See* Oldham, R.K., 4
Attah-Poku, S.: *See* Xiang, J., 15
Atzpodien, J.: *See* Schomburg, A., 58; *See also* Duensing, S., 170

Babiuk, L.: *See* Xiang, J., 15
Bezwoda, W.R.: *See* Ariad, S., 139
Bezwoda, W.R. and Dajee, D.: Plasma lactoferrin content in neutropenic patients: effects of treatment with recombinant granulocyte-macrophage colony-stimulating factor, 103
Birch, R.: *See* Oldham, R.K., 4
Blumenschein, G.: *See* Oldham, R.K., 4
Broderick, C.: *See* Kurzman, I.D., 29
Bykovskaya, S.N.: *See* Shadrin, O., 151

Chaitchik, S.: *See* Merimsky, O., 130; Merimsky, O., 135; Merimsky, O., 95
Chu, T.M.: *See* Nakajima, I., 47
Cohen, R.: *See* Ariad, S., 139

Dajee, D.: *See* Bezwoda, W.R., 103
Dillman, J.B.: *See* Dillman, R.O., 10
Dillman, R.O., Ryan, K.P., Dillman, J.B., Shawler, D.L., and Maguire, R.: WY 18,251 (Tilomisole), an analog of levamisole: tolerability, and immune modulating effects in cancer patients, 10
Dillman, R.O. and Koziol, J.A.: Phase I cancer trials: limitations and implications, 117
Dronova, O.M.: *See* Shadrin, O., 151
Duensing, S., Hadam, M., Körfer, A., Schomburg, A., Menzel, T., Grosse, J., Kirchner, H., Poliwoda, H., and Atzpodien, J.: Natural killer antigen density as pretreatment correlates to clinical response in tumor patients receiving long-term subcutaneous recombinant interleukin-2 and recombinant interferon-α, 170; *See also* Schomburg, A., 58

El-Atrash, S.: *See* Shalaby, M.A., 147
El-Sanousi, A.A.: *See* Shalaby, M.A., 147

Grosse, J.: *See* Duensing, S., 170
Grunewald, B.: *See* Mortiz, T., 97

Hachiya, T., Okada, K., Sakurai, A., Satomi, N., and Haranaka, K.: Antitumor activity of recombinant human tumor necrosis factor in combination with hyperthermia against heterotransplanted human prostatic carcinoma and its lymph node metastasis in nude mice, 34
Hadam, M.: *See* Schomburg, A., 58; *See also* Duensing, S., 170
Hadley, H.R.: *See* Wang, Y., 143
Haketa, Y.: *See* Shimizu, T., 184
Haranaka, K.: *See* Hachiya, T., 34
Hirohata, T.: *See* Okuno, K., 83
Hust, H.: *See* Mortiz, T., 97
Hamilton, T.: *See* Xiang, J., 174

Inbar, M.: *See* Merimsky, O., 95
Iwamoto, Y.: *See* Shimizu, T., 184

Kalra, J.: *See* Xiang, J., 174
Kariya, K., Nakamura, K., Nomoto, K., Matama, S., and Saigenji, K.: Mimicking of superoxide dismutase activity by protein-bound polysaccharide of *Coriolus versicolor* QUEL, and oxidative stress relief for cancer patients, 40
Kaufman, O.Y.: *See* Shadrin, O., 151
Kirchner, H.: *See* Schomburg, A., 58; *See also* Duensing, S., 170
Korfer, A.: *See* Schomburg, A., 58; *See also* Duensing, S., 170
Koziol, J.A.: *See* Dillman, R.O., 117
Kummer, G.: *See* Mortiz, T., 97
Kurimura, M.: *See* Shimizu, T., 184
Kurzman, I.D., MacEwen, E.G., Broderick, C., and Witte, P.: Effect of colony-stimulating factors on number and function of circulating monocytes in normal dogs, 29

Larrick, J.W. and Wright, S.C.: Modulation of viral infections by cytokines, 87
Lau, B.H.S.: *See* Wang, Y., 143
Lee, M.H.: *See* Rinehart, J.J., 77
Liu, E.: *See* Xiang, J., 15

MacEwen, E.G.: *See* Kurzman, I.D., 29
Maguire, R.: *See* Dillman, R.O., 10
Marks, J.W.: *See* Rosenblum, M.G., 122
Matama, S.: *See* Kariya, K., 40
Mazumder, A.: *See* Williams, T.W., 66
Menzel, T.: *See* Schomburg, A., 58; *See also* Duensing, S., 170
Merimsky, O., Inbar, M., and Chaitchik, S.: Metastases to skeletal muscles and interferon treatment, 95
Merimsky, O. and Chaitchik, S.: Our experience with interferon alpha: metastatic malignant melanoma, 135
Our experience with interferon alpha: renal cell carcinoma, 130
Mizuno, D.-I. and Soma, G.-I.: Oral or percutaneous administration of lipopolysaccharide of small molecular size may cure various intractable diseases: a new version of Coley's toxin, 166
Moritz, T., Weissmann, B., Grunewald, B., Hust, H., Kummer, G., and Niederle, N.: Induction of 2'-5' oligoadenylate synthetase during interferon treatment of chronic myelogenous leukemia, 97
Moyana, T.: *See* Xiang, J., 174

Nakajima, I. and Chu, T.M.: Enhanced cell-mediated cytotoxicity by interferon-gamma and interleukin-2 against syngeneic murine mammary adenocarcinoma, 47
Nakamura, K.: *See* Kariya, K., 40
Niederle, N.: *See* Mortiz, T., 97
Nomoto, K.: *See* Kariya, K., 40
Novakovic, S.: *See* Sersa, G., 188

Obermeier, J.: *See* Adibzadeh, M., 24
Ochiai, A.: *See* Shimizu, T., 184
Ohnishi, H.: *See* Okuno, K., 83
Okada, K.: *See* Hachiya, T., 34
Okuno, K., Ohnishi, H., Shilayama, Y., Hirohata, T., Ozaki, M., and Yasutomi, M.: Augmentation of human lymphokine-activated killer cell activity in splenic lymphocytes by the combination of low-dose interleukin 2 plus interleukin 3, 83
Oldham, R.K.: Peer review, 2
Innovation in science, 164
Oldham, R.K., Blumenschein, G., Schwartzberg, L., Birch, R., and Arnold, J.: Combination biotherapy utilizing interleukin-2 and alpha interferon in patients with advanced cancer: a National Biotherapy Study GroupTrial, 4
Ozaki, M.: *See* Okuno, K., 83

Pan, Z. *See* Xiang, J., 15
Pawelec, G.: The role of cytokines in tumor immunotherapy, 201; *See* also Adibzadeh, M., 24
Poliwoda, H.: *See* Schomburg, A., 58; *See also* Duensing, S., 170

Qi, Y.: *See* Xiang, J., 174
Qian, X-J.: *See* Wang, Y., 143

Reda, M.I.: *See* Shalaby, M.A., 147
Rehbein, A.: *See* Adibzadeh, M., 24
Rinehart, J.J., Triozzi, P.L., Lee, M.H., Aldrich, W., and Young, D.: Modulation of hematologic and immunologic effects of high dose chemotherapy by interleukin-2 in a murine tumor model, 77
Rosenblum, M.G., Zuckerman, J.E., Marks, J.W., Rotbein, J., and Allen, W.R.: A gelonin-containing immunotoxin directed against human breast carcinoma, 122
Rotbein, J.: *See* Rosenblum, M.G., 122
Ryan, K.P.: *See* Dillman, R.O., 10

Saber, M.A.: *See* Shalaby, M.A., 147
Saheh, S.M.: *See* Shalaby, M.A., 147
Saigenji, K.: *See* Kariya, K., 40
Sakurai, A.: *See* Hachiya, T., 34
Sami, A.M.: *See* Shalaby, M.A., 147

Author Index

Abstracts of the Cancer Biotherapy Symposium, 193
Achiwa, K.: *See* Shimizu, T., 184
Adibzadeh, M., Weder, H.G., Rehbein, A., Schwulera, U., Obermeier, J., and Pawelec, G.: Activity of liposomal interleukin-2 in vitro, 24
Aldrich, W.: *See* Rinehart, J.J., 77
Allen, W.R.: *See* Rosenblum, M.G., 122
Ariad, S., Song, E., Cohen, R., and Bezwoda, W.R.: Interferon-alpha induced autoimmune hepatitis in a patient with Philadelphia chromosome-positive chronic myeloid leukemia with cytogenetically normal T lymphocytes, 139
Arnold, J.: *See* Oldham, R.K., 4
Attah-Poku, S.: *See* Xiang, J., 15
Atzpodien, J.: *See* Schomburg, A., 58; *See also* Duensing, S., 170

Babiuk, L.: *See* Xiang, J., 15
Bezwoda, W.R.: *See* Ariad, S., 139
Bezwoda, W.R. and Dajee, D.: Plasma lactoferrin content in neutropenic patients: effects of treatment with recombinant granulocyte-macrophage colony-stimulating factor, 103
Birch, R.: *See* Oldham, R.K., 4
Blumenschein, G.: *See* Oldham, R.K., 4
Broderick, C.: *See* Kurzman, I.D., 29
Bykovskaya, S.N.: *See* Shadrin, O., 151

Chaitchik, S.: *See* Merimsky, O., 130; Merimsky, O., 135; Merimsky, O., 95
Chu, T.M.: *See* Nakajima, I., 47
Cohen, R.: *See* Ariad, S., 139

Dajee, D.: *See* Bezwoda, W.R., 103
Dillman, J.B.: *See* Dillman, R.O., 10
Dillman, R.O., Ryan, K.P., Dillman, J.B., Shawler, D.L., and Maguire, R.: WY 18,251 (Tilomisole), an analog of levamisole: tolerability, and immune modulating effects in cancer patients, 10
Dillman, R.O. and Koziol, J.A.: Phase I cancer trials: limitations and implications, 117
Dronova, O.M.: *See* Shadrin, O., 151
Duensing, S., Hadam, M., Körfer, A., Schomburg, A., Menzel, T., Grosse, J., Kirchner, H., Poliwoda, H., and Atzpodien, J.: Natural killer antigen density as pretreatment correlates to clinical response in tumor patients receiving long-term subcutaneous recombinant interleukin-2 and recombinant interferon-α, 170; *See also* Schomburg, A., 58

El-Atrash, S.: *See* Shalaby, M.A., 147
El-Sanousi, A.A.: *See* Shalaby, M.A., 147

Grosse, J.: *See* Duensing, S., 170
Grunewald, B.: *See* Mortiz, T., 97

Hachiya, T., Okada, K., Sakurai, A., Satomi, N., and Haranaka, K.: Antitumor activity of recombinant human tumor necrosis factor in combination with hyperthermia against heterotransplanted human prostatic carcinoma and its lymph node metastasis in nude mice, 34
Hadam, M.: *See* Schomburg, A., 58; *See also* Duensing, S., 170
Hadley, H.R.: *See* Wang, Y., 143
Haketa, Y.: *See* Shimizu, T., 184
Haranaka, K.: *See* Hachiya, T., 34
Hirohata, T.: *See* Okuno, K., 83
Hust, H.: *See* Mortiz, T., 97
Hamilton, T.: *See* Xiang, J., 174

Inbar, M.: *See* Merimsky, O., 95
Iwamoto, Y.: *See* Shimizu, T., 184

Kalra, J.: *See* Xiang, J., 174
Kariya, K., Nakamura, K., Nomoto, K., Matama, S., and Saigenji, K.: Mimicking of superoxide dismutase activity by protein-bound polysaccharide of *Coriolus versicolor* QUEL, and oxidative stress relief for cancer patients, 40
Kaufman, O.Y.: *See* Shadrin, O., 151
Kirchner, H.: *See* Schomburg, A., 58; *See also* Duensing, S., 170
Korfer, A.: *See* Schomburg, A., 58; *See also* Duensing, S., 170
Koziol, J.A.: *See* Dillman, R.O., 117
Kummer, G.: *See* Mortiz, T., 97
Kurimura, M.: *See* Shimizu, T., 184
Kurzman, I.D., MacEwen, E.G., Broderick, C., and Witte, P.: Effect of colony-stimulating factors on number and function of circulating monocytes in normal dogs, 29

Larrick, J.W. and Wright, S.C.: Modulation of viral infections by cytokines, 87
Lau, B.H.S.: *See* Wang, Y., 143
Lee, M.H.: *See* Rinehart, J.J., 77
Liu, E.: *See* Xiang, J., 15

MacEwen, E.G.: *See* Kurzman, I.D., 29
Maguire, R.: *See* Dillman, R.O., 10
Marks, J.W.: *See* Rosenblum, M.G., 122
Matama, S.: *See* Kariya, K., 40
Mazumder, A.: *See* Williams, T.W., 66
Menzel, T.: *See* Schomburg, A., 58; *See also* Duensing, S., 170
Merimsky, O., Inbar, M., and Chaitchik, S.: Metastases to skeletal muscles and interferon treatment, 95
Merimsky, O. and Chaitchik, S.: Our experience with interferon alpha: metastatic malignant melanoma, 135
Our experience with interferon alpha: renal cell carcinoma, 130
Mizuno, D.-I. and Soma, G.-I.: Oral or percutaneous administration of lipopolysaccharide of small molecular size may cure various intractable diseases: a new version of Coley's toxin, 166
Moritz, T., Weissmann, B., Grunewald, B., Hust, H., Kummer, G., and Niederle, N.: Induction of 2'-5' oligoadenylate synthetase during interferon treatment of chronic myelogenous leukemia, 97
Moyana, T.: *See* Xiang, J., 174

Nakajima, I. and Chu, T.M.: Enhanced cell-mediated cytotoxicity by interferon-gamma and interleukin-2 against syngeneic murine mammary adenocarcinoma, 47
Nakamura, K.: *See* Kariya, K., 40
Niederle, N.: *See* Mortiz, T., 97
Nomoto, K.: *See* Kariya, K., 40
Novakovic, S.: *See* Sersa, G., 188

Obermeier, J.: *See* Adibzadeh, M., 24
Ochiai, A.: *See* Shimizu, T., 184
Ohnishi, H.: *See* Okuno, K., 83
Okada, K.: *See* Hachiya, T., 34
Okuno, K., Ohnishi, H., Shilayama, Y., Hirohata, T., Ozaki, M., and Yasutomi, M.: Augmentation of human lymphokine-activated killer cell activity in splenic lymphocytes by the combination of low-dose interleukin 2 plus interleukin 3, 83
Oldham, R.K.: Peer review, 2
Innovation in science, 164
Oldham, R.K., Blumenschein, G., Schwartzberg, L., Birch, R., and Arnold, J.: Combination biotherapy utilizing interleukin-2 and alpha interferon in patients with advanced cancer: a National Biotherapy Study GroupTrial, 4
Ozaki, M.: *See* Okuno, K., 83

Pan, Z. *See* Xiang, J., 15
Pawelec, G.: The role of cytokines in tumor immunotherapy, 201; *See* also Adibzadeh, M., 24
Poliwoda, H.: *See* Schomburg, A., 58; *See also* Duensing, S., 170

Qi, Y.: *See* Xiang, J., 174
Qian, X-J.: *See* Wang, Y., 143

Reda, M.I.: *See* Shalaby, M.A., 147
Rehbein, A.: *See* Adibzadeh, M., 24
Rinehart, J.J., Triozzi, P.L., Lee, M.H., Aldrich, W., and Young, D.: Modulation of hematologic and immunologic effects of high dose chemotherapy by interleukin-2 in a murine tumor model, 77
Rosenblum, M.G., Zuckerman, J.E., Marks, J.W., Rotbein, J., and Allen, W.R.: A gelonin-containing immunotoxin directed against human breast carcinoma, 122
Rotbein, J.: *See* Rosenblum, M.G., 122
Ryan, K.P.: *See* Dillman, R.O., 10

Saber, M.A.: *See* Shalaby, M.A., 147
Saheh, S.M.: *See* Shalaby, M.A., 147
Saigenji, K.: *See* Kariya, K., 40
Sakurai, A.: *See* Hachiya, T., 34
Sami, A.M.: *See* Shalaby, M.A., 147

Satomi, N.: *See* Hachiya, T., 34
Schomburg, A., Menzel, T., Hadam, M., Duensing, S., Korfer, A., Kirchner, H., Poliwoda, H., and Atzpodien, J.: Biologic and therapeutic efficacy of mafosfamide in patients with metastatic renal cell carcinoma, 58; *See also* Duensing, S., 170
Schwartzberg, L.: *See* Oldham, R.K., 4
Schwulera, U.: *See* Adibzadeh, M., 24
Sersa, G., Novakovic, S., and Štalc, A.: Antitumor effect of recombinant human tumor necrosis factor-α analog combined with desmuramyl dipeptides LK-409 or LK-410 on sarcoma in mice, 188
Shadrin, O., Kaufman, O.Y., Dronova, O.M., and Bykovskaya, S.N.: Recombinant interleukin-2 significantly increases the survival of mice with peritonitis, but not acute *Staphylococcus aureus* peritoneal infection, 151
Shalaby, M.A., Saheh, S.M., El-Atrash, S., Sami, A.M., El-Sanousi, A.A., Saber, M.A., and Reda, M.I.: Application of *Corynebacterium cutis* lysate as an immune stimulant in cattle, 147
Shawler, D.L.: *See* Dillman, R.O., 10
Shilayama, Y.: *See* Okuno, K., 83
Shimizu, T., Haketa, Y., Iwamoto, Y., Yanagihara, Y., Kurimura, M., Ochiai, A., and Achiwa, K.: Relation between the biologic activities and chemical structures of synthetic microbial lipopeptide analogs in mice, 184
Soma, G.-I.: *See* Mizuno, D.-I., 166
Song, E.: *See* Ariad, S., 139
Štalc, A.: *See* Sersa, G., 188

The Staff of the National Institute of Allergy and Infectious Diseases: Executive Summary of the AIDS Research Advisory Committee, 114
Triozzi, P.L.: *See* Rinehart, J.J., 77

Wang, X., Qian, X-J., Hadley, H.R., and Lau, B.H.S.: Phytochemicals potentiate interleukin-2 generated lymphokine-activated killer cell cytotoxicity against murine renal cell carcinoma, 143
Weder, H.G.: *See* Adibzadeh, M., 24
Weissmann, B.: *See* Mortiz, T., 97
Williams, T., Yanagimoto, J.M., Mazumder, A., and Wiseman, C.L.: Interleukin-2 increases the antibody response in patients receiving autologous intralymphatic tumor cell vaccine immunotherapy, 66
Wiseman, C.L.: *See* Williams, T.W., 66
Witte, P.: *See* Kurzman, I.D., 29
Wright, S.C.: *See* Larrick, J.W., 87

Xiang, J.: Genetic engineering of anticolorectal carcinoma Fv molecule in myeloma cells, 70
Xiang, J., Moyana, T., Kalra, J., Hamilton, T., and Qi, Y.: Construction and characterization of a high affinity chimeric anti-colorectal carcinoma antibody ccM4, 174
Xiang, J., Pan, Z., Attah-Poku, S., Babiuk, L., Zhang, Y., and Liu, E.: Production of hybrid bispecific antibody recognizing human colorectal carcinoma and CD3 antigen, 15

Yanagimoto, J.M.: *See* Williams, T.W., 66
Yanagihara, Y.: *See* Shimizu, T., 184
Yasutomi, M.: *See* Okuno, K., 83
Young, D.: *See* Rinehart, J.J., 77

Zhang, Y.: *See* Xiang, J., 15
Zuckerman, J.E.: *See* Rosenblum, M.G., 122

Subject Index

Acute peritoneal infection, 151
α-interferon, 95
Alpha interferon, 4
Analgesic effect, 166
Antibiotics, 151
Antibody-dependent cellular cytotoxicity, 15, 174
Antibody response, 66
Antitumor activity, 184
Arthritis, 166
Astragalus membranaceus, 143

B16-melanoma, 77
Behavioral change, 130
Biological therapy, 117
Biologic response modifiers, 77
Biotherapy, 4
Bone resorption, 166
Breast, 122

Cancer, 4, 117
Cancer therapy, 77
Cattle, 147
Cell culture, 24
Cell-mediated cytotoxicity, 24
Chemotherapeutic agents, 122
Chemotherapy, 117
Chimeric antibody, 174
Chronic myelogenous leukemia, 97
Colon cancer, 174
Complement-dependent cytotoxicity, 174
Corynebacterium cutis, 147
Cytokine, 87
Cytostatic activity, 29
Cytotoxic T lymphocyte, 47

Dementia, 130
Desmuramyl dipeptides, 188
Diabetes, 166
Dog, 29

Electron spin resonance (ESR), 40

Fv molecule, 70

Gelonin, 122
Granulocyte-macrophage colony-stimulating factor, 103

Health status, 147
Hepatitis, 139
Herpes, 166
High-dose combination chemotherapy, 77
Human, 66
Human colon cancer, 70
Human ovarian cancer, 15
Hybrid bispecific antibody, 15
Hyperlipidemia, 166
Hyperthermia, 34

Imaging, 174
Immune regulation, 139
Immunostimulants, 147
Immunotherapy, 66
Immunotoxin, 122
Interferon, 87, 97
Interferon-α, 135, 139
Interferon-gamma, 47
Interleukin-2, 4, 24, 47, 66, 77, 83, 143, 151
Interleukin 3, 83
Intralymphatic, 66
Ion-radical scavenger, 40

Leukocyte, 29
Lethal toxicity, 184
Liposomes, 24
Lipopolysaccharide, 166
Lymph node metastasis, 34
Lymphokine-activated killer cell, 47, 83
Lymphokine-activated killer cells, 24, 143

Mafosfamide, 58
Major histocompatibility complex, 47
Metastatic malignant melanoma, 95, 135
Metastatic renal cell carcinoma, 58
Mitogenicity, 184
Monocyte, 29
Mouse, 47

Murine sarcoma, 188
Muscle metastases, 95

Natural killer cell, 170
Neurotoxicity, 130
Neutropenia, 103

Oxidative stress, 40
2′-5′ oligoadenylase synthetase, 97
Ontogenic inflammation, 166

Peritonitis, 151
Pharmacokinetics, 130
Phase I trials, 117
Phytochemicals, 143
Plasma lactoferrin, 103
Prostatic carcinoma, 34
Protein-bound polysaccharide (PS-K), 40

Recombinant canine granulocyte colony-stimulating factor, 29
Recombinant human granulocyte-macrophage colony-stimulating factor, 29
Recombinant interferon-α, 170
Recombinant interferon-αC, 130
Recombinant interleukin-2, 170
Renal cell carcinoma, 95, 130, 143

SOD, 40
Staphylococcus aureus, 151
Synthetic lipopeptide analogs, 184

T-lymphocyte clones, 24
T lymphocytes, 139
TNF, 87
Tumor cell vaccine, 66
Tumor infiltrating lymphocyte, 47
Tumor necrosis factor (TNF), 34, 166, 188
Tumor treatment, 188

Ulcer, 166

Vinblastine, 130
Viral infection, 87